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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,952	03/03/2004	Francesco Casagrande	91610	5054
24628	7590	08/19/2004	EXAMINER	
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			HAILEY, PATRICIA L	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,952

Applicant(s)

Art Unit

1755

Examiner

Patricia L. Hailey

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on March 3, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on March 3, 2004.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

In claim 7, the phrase "in more steps" is indefinite. It cannot be determined exactly how many steps the method of claim 7 comprises. According to Applicants' Specification at page 3, lines 4-10:

"The catalyst is prepared by impregnating the alumina in two or more steps,...".

Claim 8 lacks antecedent basis for the phrase "impregnated powder". Claim 7, from which claim 8 depends, does not recite this phrase.

Claim 9 is indefinite for failing to positively recite process steps defining the method claimed therein. While it is understood that the claimed process involves

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the oxychlorination ethylene to 1,2-dichloroethane, claim 9 does not specifically recite any process steps describing how the oxychlorination takes place.

Allowable Subject Matter

4. Claims 1-6 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:

While the prior art teaches catalysts comprising compounds of copper and magnesium supported on alumina, the prior art does not teach or suggest Applicants' claim limitations regarding the Mg/Cu ratio (0.05 to 1), and especially Applicants' claim limitations regarding the distribution of copper in the catalyst such that the ratio between (1) the concentration of copper atoms at the surface layer of the catalyst (X; Al/Cu ratio at the surface) and (2) the concentration of copper atoms in the entire catalyst (Y; Al/Cu ratio in the entire particle) is from 0.8 to 1.3 (i.e., X/Y is from 0.8 to 1.3).

The prior art also does not teach or suggest Applicants' claimed method of preparing the above catalysts, wherein the alumina is impregnated in a first step using volumes of aqueous solution of Cu and Mg compounds equal to, or lower than, the volume of the pores of the alumina, followed by steps using volumes of said aqueous solution that gradually decrease with respect to the volume used in the first step.

Cavalli et al. (U. S. Patent No. 6,759,365) teaches oxychlorination catalysts similar to that instantly claimed, but Patentees' catalyst has a different range for X/Y for an Mg/Cu atomic ratio of 2 (greater than 1.2 and reaching 2.7; see col. 4, lines 33-37). Further, Patentees' catalyst exhibits a distribution of copper atoms more inside the particle of the catalyst than at the surface layer. See col. 3, lines 33-46 of Cavalli et al.

Canavesi et al. (U. S. Patent No. 5,070,062) teaches an oxychlorination catalyst comprising alumina impregnated with cupric chloride and with the chloride of an alkali or alkaline earth metal, in which the copper and alkali or alkaline earth metal **are uniformly distributed over the entire surface area of the particles.** The catalyst is prepared by impregnating a thermally treated alumina using a volume of an aqueous solution of cupric chloride and alkali or alkaline earth metal chloride of from 0.7 to 0.9 times the total pore volume of the particles. Additionally, the catalyst contains quantities of cupric chloride of the order of 4-5% by weight (col. 2, lines 33-38). See col. 1, line 60 to col. 2, line 60 of Canavesi et al.

Cavaterra et al. (U. S. Patent Nos. 4,587,230 and 4,871,707) were cited in Applicant's disclosure.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

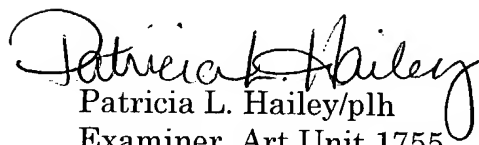
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
August 11, 2004


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700